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ABSTRACT

The Intellectual Framework Analysis (IFA) is a structured approach to reading expository prose. Suitable for use with high school students and college freshmen, the IFA consists of a number of questions concerning the author's subject matter, classifications, value judgments, motivation, and form/content. The IFA incorporates a number of study skills necessary in reading and understanding content materials, including the following: recognizing structural organization; outlining; logical analysis; propaganda techniques; and value clarification. The IFA both reconstructs and recodes materials, thus aiding in the storage and retrieval of information and increasing understanding and retention. (A student-produced model is included.) (Author/DF)

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Reading: Going Beyond the Information Given

When we ask students to read and evaluate a piece of expository prose, we are asking them to use their knowledge, experience, and language competency to process information. After they finish reading, we usually ask them such global questions as what did you get out of it? or what was the author's purpose? The answers to such questions, written or oral, are often disappointing to both teacher and students. Part of the problem here is that teachers and students often lack an effective approach.

With the help of our students during the past three years, we have developed a systematic procedure which aids the reader in processing the author's material. The Intellectual Framework Analysis (IFA) presented in this article is a structured approach to reading expository prose. Suitable for high school students and college freshmen, the IFA is based on a number of concepts drawn from studies in cognitive psychology by Jerome Bruner (1973) and George Miller (1956) as well as the psycholinguistic reading models of Kenneth Goodman (1967) and Frank Smith (1974). The IFA requires the reader to move between the surface or literal level and the deeper or interpretative level(s) of meaning of the expository prose.

The dynamics of this interaction as structured in the IFA results in the reader reconstructing and recoding the author's message. Each of these procedures is beneficial. First, the reconstruction of the information requires the reader to rearrange and in some places complete the information given. By doing this, the reader creates a map similar to that used by the author in his or her cognitive planning. With this map the reader has a guide to both the content and structure of the author's message. Through practice the reader can utilize this

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framework to predict and verify meaning. This is the process that Kenneth Goodman says will help reduce uncertainty and increase understanding.

Recoding, the second process required by the IFA, aids the reader in remembering the material. As Bruner has pointed out, the problem of memory is not so much one of storage as that of retrieval. The regrouping of bits of information into larger segments results in ease of storage and retrieval. George Miller calls this recoding process, "chunking." In other words, the reader processes and recodes material into larger chunks that incorporate a number of bits of information. Both bits and chunks then become a product of the reader's own cognitive patterning.

In introducing the Intellectual Framework Analysis we ask the students to read the following advertisement from Time magazine.* (See Appendix A)

"How to Open Your Own BTV Assembly Plant"

Many of the less industrialized nations of the world are in need of low-cost basic transportation. The owners of small businesses, farms and little factories in those countries often can't afford the cost of the kinds of cars and trucks that the industrialized nations export. So we've developed a Basic Transportation Vehicle that can be made in the less industrialized countries in a plant that costs about $50,000.

The assembly plants are usually owned by the people who live in those countries. We give them technical assistance at the beginning and then leave them on their own after a few weeks or months.

The automobile body they make has no curved metal, so they can literally cut it out of sheet metal with a "Nipper," a kind of motorized metal shears. It's done in about the same way that a dress is cut from a pattern.

We supply the difficult-to-manufacture parts (engine and drive train) from a GM plant in England, and we do it with standard parts so that there aren't

* Permission granted by Time Inc. to reprint.

any problems about the availability of replacement parts.

The assembly work teaches these skills: welding, sheet-metal working, planting, work layout, quality control, scheduling and ordering, wiring, auto mechanics, carpentry and critical path planning for production.

The BTV is usually the lowest-priced 4-wheel vehicle available in the country and often the first vehicle a person can afford to buy. In some places it costs less than a good horse.

Our design for the manufacture of those vehicles is labor intensive rather than capital intensive, because these countries need work for their people.

All it takes to start a BTV plant is a structure about the size of a large barn, $50,000, and the national will to begin industrializing.

The Basic Transportation Vehicle is being built now in Malaysia, Ecuador, Portugal and the Philippines. With GM assistance people are starting their own assembly plants in other countries in Africa, Latin America and the Middle East.

GM is willing to help people in any country to start up their own BTV assembly plant. We believe it is the moral obligation of industrialized societies to help less industrialized countries get started on the way to a higher standard of living. The BTV is a step in that direction.

Taken from Time, November 12, 1973
Advertisement for General Motors

Our next step is to ask the global questions: What did you get from it? What is the author's message? Students frantically scurry to find mental templates to match the teacher's. This activity provides a basis for comparing and contrasting questions and answers after the use of the IFA.

We then discuss the psychological base for the IFA as presented above. We give them the IFA overview and discuss each of the sections, referring to the advertisement for examples.

Intellectual Framework Analysis
(An approach to reading non-fiction prose)

I. Subject Matter: (After identifying the material, author, and publication, write one or two sentences stating briefly what the article is about.)

A. Classifications: (How is the material divided? While reading, list the divisions of these main points. In some cases the author may only imply classifications. Therefore, the reader will need to complete the implication. Star the completed implications.)

B. Distinctions: (Go back over classifications and choose those to which the author attaches a value judgment. List these as distinctions and underline those which the author values. Write one or two sentences explaining the author's major preferences.)

C. Definitions: (How does the author define key terms as found under classifications and distinctions?)

II. Techniques of Proof: (How are the author's value judgments supported? Which of the following techniques are used? Write a paragraph citing specific examples related to each category.)

A. Type of Analysis

1. cause-effect
2. comparison-contrast
3. process analysis
4. illustration
5. definition

B. Manner of Reasoning

1. deductive
2. inductive
3. analogy

C. Nature of Examples

1. Facts

a. verified

b. accepted

2. Opinions

a. objective

b. subjective

c. authorities'

d. author's

e. collective

III. Motivation: (What is the author's purpose in writing the article?)

IV. Form to Content: (Comment on the way vocabulary, sentence structure, and general format are used to achieve the author's purpose.)

V. Evaluation: (Write a couple of paragraphs discussing how effective the author is in achieving his/her purpose. Consider first,the general audience for whom the article is written and aimed, and second, how worthwhile you the reader consider the work.)

Once the students have an understanding of the topics and questions, we divide them into small groups and ask each group to finish applying the IFA to the article and record the results. Each group then shares the results and a composite is made by the students or teacher and distributed at the next class meeting. This composite serves as a model for further applications to other expository readings. The students often write their first drafts in a phrase format then progress to a more polished form as represented in the student composite below.

"How to Open Your Own BTV Assembly Plant"
Time, November 12, 1973. (Advertisement for General Motors)

I. Subject Matter: The author is writing about the advantages of a Basic Transportation Vehicle (BTV). The vehicle is developed by General Motors for manufacture and use in less industrialized nations.

A. Classifications:

1. Transportation

a. low cost

b. high cost*

2. Nations

a. less industrialized

b. industrialized

3. Materials

a. supplied

b. self-made

c. complex

d. non-complex

e. curved metal

f. flat metal

g. standard parts

(1) engine

(2) drive train

4. Skills

a. welding

b. sheet metal work

c. painting

d. work layout

e. quality control

f. wiring

g. scheduling

h. mechanics

i. carpentry

j. critical path planning

5. Owner of Assembly Plant

a. GMC*

b. people of the country

6. Location of plants

a. Malaysia

b. Ecuador

c. Portugal

d. Phillipines

e. Africa

f. Latin America

g. Middle East

B. Distinctions:

1. low cost transportation vs. high cost transportation*
2. less industrialized nations vs. industrialized nations
3. labor intensive vs. capital intensive
4. flat metal vs. curved metal
5. low standard of living vs. higher standard of living
6. plants owned by people vs. plants owned by GMC*

In developing the advantages of the BTV, the author prefers the above underlined distinctions. The major valued distinctions appear to be low cost transportation and industrialized nations. Most other distinctions can be subordinated to one of these two. For example, flat metal under low cost transportation and higher standard of living under industrialized nation. The starred items had to

be constructed since they were not in the article itself.

C. Definitions:

1. BTV is a basic transportation vehicle, affordable by general populace in less industrialized nations.
2. Labor intensive is an approach oriented toward providing needed jobs for people in underdeveloped countries.
3. Capital intensive, higher standard of living, and other distinctions are not defined.

II. Techniques of Proof

The major type of analyses utilized here are comparison-contrast and cause-effect. These are backed up with examples both in words and with diagrams/pictures. The contrast of the less industrialized nations with industrialized nations, low cost with high cost transportation as revealed in the major distinctions are treated in terms of their effects. It is claimed that the effects of manufacturing BTV would be to provide skilled jobs, more industires, and thus a higher standard of living.

The manner of reasoning is deductive with generalizations given initially. An example of this is "less industrialized nations of the world are in need of low cost transportation." Two analogies are used, one comparing the cutting of sheet metal to cutting a cloth from a pattern for a dress and the second comparing the cost of BTV to the cost of a horse.

The nature of examples fall into the category of facts that are presented as generally accepted. Examples of these unverified facts are the need for transportation in less industrialized nations, the plant costs, and the prospective locations of the plants. Much of the argument is based on the author's two basic distinctions. First, the essential need of less industrialized nations is a basic transportation vehicle. Second, the best way to meet this need is through an assembly plant provided with General Motor's "assistance."

III. Motivation:

The author's purpose in writing the advertisement is to show how GMC is willing to help underdeveloped countries. A secondary purpose would be to increase the public relations image of GMC as a company not concerned with profits but with helping the less fortunate.

IV. Form to Content:

The form is characterized by simple words, short sentences, and one or two sentence paragraphs. These are accompanied by simple diagrams and pictures which can be cut out and assembled. Both contribute to the author's point that "all it takes to start a BTV plant is a structure the size of a large barn, $50,000, and the national will to begin industrializing." The analogies to barn, dress, and horse are uncomplicated and contribute to the author's motivation that GMC has the simple answer to the problem of underdeveloped nations.

V. Evaluation:

The author effectively uses several techniques to achieve his main motivation of showing how his company (GMC) is interested in helping less industrialized nations. In keeping with the purpose, the writer has made both form and content relatively uncomplicated and thus in a short space appeals directly to the reader. The bold title and illustrations involve the reader initially. As a result of these techniques the author successfully accomplishes his purpose.

The related purpose of promoting GMC's image is also an important aspect of the advertisement. GMC's willingness to "give technical assistance" and to supply "difficult-to-manufacture parts" as part of their "moral obligations" is evident. As an article, it is worth analysis as it makes the reader

realize the dual levels of motivation at work in the advertisement.

However, the total cost of dependency on GMC's "assistance" is not balanced with adequate techniques of proof. This lack of proof raises the questions on whether the author's valued but undefined distinctions (industrialization, and higher standard of living) are really desirable for these countries.

Once the students have identified the subject matter, they quickly perceive how the author, using his/her linguistic hatchet, classifies and categorizes subject matter into more manageable parts. In doing so, the author imposes as sense of order, a perception of reality, on the material. Readers sensitive to the author's particular way of dissecting the world around him/her will increase both their critical appreciation and understanding of the writing.

Part of the understanding results from the students completing the author's classifications. For example when the author of the Time article classifies skills, eleven examples are given; thus there is little need for additional classification. However, in classifying transportation the author mentions only one category, low cost transportation. The IFA process here alerts the reader to the missing information. The reader now completes the classification by listing additional information such as high cost, medium cost and so forth. An asterisk is placed next to information that is reconstructed by the reader. Other subject matters in the article requiring the reader's completion include assistance, standard of living, and obligation. In sum, this reconstructing of the subject matter encourages the reader, in Bruner's terms, to go "beyond the information given," to discover new information, new connections, and new insights.

Once the classifications have been listed, the students work with the key process, the discovery of distinctions. Distinctions are those classifications

to which the author attaches a value judgment. A value judgment can be defined as a preference, as an emphasis, or as a focus on a particular part of the classification of the subject. We ask the students to list the distinctions in a horizontal format such as low cost transportation vs high cost transportation* to distinguish them from the list of classifications. When all the distinctions that can be found are listed, the students go back over them and underline those that the author values. In this analysis they see that some distinctions including low and high cost transportation and low and high standard of living appear to be major headings under which subordinate distinctions such as flat metal and labor intensive might be placed.

The processing of distinctions can serve two purposes here. First, a distinction like low cost vs high cost transportation can provide the large segment of information into which smaller bits of information such as flat and curved metal can be chunked. Secondly, the reader can use the concept of distinction to predict an author's ultimate value judgments. For example, the reader could predict that the author would value industrialized nations over less industrialized nations. The reader can then verify or not verify this predicted value judgment as the reading and analysis progress.

Once the distinctions are separated from the classifications and underlined, the student is asked to locate definitions for the key classifications and distinctions. It is equally important to note when the definitions are not present or are unclear.

Under the section headed techniques of proof, the student is asked to find how the author supported the value judgments for the underlined distinctions. Over a period of a semester, students gradually become more familiar with the three techniques of proof: type of analysis, manner of reasoning, and nature of examples. By providing concrete examples of each of the techniques

of proof in assigned readings, the teacher can acquaint the students with these basic concepts of logic. It is not necessary for students to grasp the finer points of the techniques of proof in order to effectively evaluate the article.

The last three sections of the IFA (Motivation, Form to Content, and Evaluation) are designed to provide students the opportunity to interrelate the preceding questions and answers. We find that the students' response to these three sections reveal quite sophisticated insights into the author's purpose and achievement. (Any one of the questions related to the last three sections, especially those under Evaluation, can be used as basis for writing an extended critical essay.) The above composite gives an indication of the caliber of work students can be expected to achieve at an early stage in the application of the IFA.

Once the students have completed this IFA process, they are more aware of what the reader should expect from the writer. They are also more alert to the process which the proficient reader uses to interpret the author's message. In terms of its relationship to writing, we have found that students who are familiar with the IFA are often more alert to the need to clearly reveal their distinctions, value judgments, and techniques of proof to their reader. Later related essay assignments result in the use of these understandings to produce more perceptive, critical, and readable essays.

We have used the IFA successfully with high school students and with college freshmen. A natural sequence in the development and application of the IFA includes its use as a directed reading activity; that is, turning the section headings into questions. The student is then looking, as he or she reads, for answers to such questions as: What is the subject matter? How is it classified, divided, defined, and valued? What is the author's motivation? How does form contribute to content? How effectively does author achieve purpose? Again the answers to the initial sections prepare reader for responding to the later evalu-

ative questions. Some students have found that with marginal notations of the IFA process as they read, they are well prepared to respond orally and/or in writing to a variety of classroom questions.

In sum, we believe the IFA incorporates a number of those study skills needed in reading and understanding content materials. These skills would include such essential abilities as recognizing structural organization, outlining, logical analysis, propaganda techniques, value clarification, SQ3R, and so forth. In addition, the IFA has the potential to activate competencies in terms of what each reader brings to and takes away from the printed page. Because it both reconstructs and recodes materials, it aids in the storage and retrieval of information, thus facilitating both understanding and remembering. The reader who continuously applies and develops the IFA in his or her reading can truly go "beyond the information given" and more effectively process the product.

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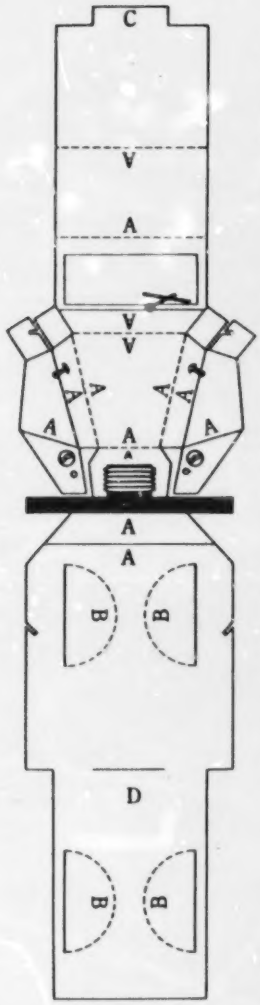
Appendix A

How to open your own BTV assembly plant.



BTV Pattern and Instructions
A. fold
B. press down
C. for insert (D)
D. cut to insert (C)

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General Motors

Chevrolet, Pontiac, Oldsmobile, Buick, Cadillac, GMC Truck and the BTV

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Abstract

This article focuses on a structured approach to reading expository prose. college freshmen and
Suitable for high school students, the Intellectual Framework Analysis (IFA) consists of a number of questions concerning the author's subject matter, classifications, value judgments, motivation, and form-content. This systematic procedure involves the reader in both reconstructing and recoding the original material. The result is that the reader increases understanding and retention.

An overview of the psycholinguistic foundation of the approach (Bruner, Miller, Smith, and Goodman) is followed by a demonstration of how the procedure is introduced and applied in the classroom. The paper concludes with a student-produced model and further suggestions for development and use of the IFA.